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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,954

08/10/2004

Ville Ruutu

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8677

32294

7590

05/03/2007

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EXAMINER

LY, HIEN QUANG

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

05/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,954	<b>Applicant(s)</b> RUUTU ET AL.	
	<b>Examiner</b> Hien Ly	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01/04/2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :07/21/2004,08/26/2004.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date  
:07/21/2004,08/26/2004.

### DETAILED ACTION

Receipt is acknowledged of applicant's amendment filed on January 04, 2007. Claims **1-19** are pending and an action on the merits is as follows.

Applicant's arguments with respect to claims **1** and **12-19** have been considered but are moot in view of the new grounds of rejection.

### *Specification*

The examiner has accepted the specification's correction filed on January 04, 2007.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zhao (' 6,452,541)** in view of **Soliman ('6,166,685)**.

Regarding **claim 1**, Zhao discloses:

Art Unit: 3662

- Assistance data from the station and timing information of a positioning system. See column 2, line 10-13.
- A delay between transmission of a signal from the station and reception signal based on a RTD. It is well known to one skilled in the art that location can be calculated when the RTD value is obtained. Furthermore, there is a relationship between time and speed of signal to calculate the distance.

Zhao fails to disclose the determination of likely location relative to the station and a delay based on the determined likely location and a more accurate location determination at the user equipment.

However, Soliman clearly discloses the determination of likely location relative to the station and a delay based on the determined likely location. See column 4, line 12-15 and line 18-25 ("  $P_o$  (INFR), RTD").

Soliman further modifies a more accurate location determination at the user equipment. Column 4, line 53-63 ("calibration measurement to indicate the positional determination").

It would have been obvious to modify Zhao to include the determination of likely location and a delay teaching of Soliman in order to efficiently track the position of a mobile unit.

Regarding **claims 2 and 3**, Zhao discloses the estimated delay transmitted from the station to the mobile user. See column 2, line 44-48, and column 3, line 21-25.

Regarding **claim 4**, Zhao discloses the satellite positioning system. See column 1, line 64 and column 2, line 1-2.

Regarding **claim 5**, Zhao discloses the GPS. See column 1, line 17-20.

Regarding **claim 6-8**, Zhao discloses the delay estimate used to relate the timing of the positioning system with a certain signal from communication system / the assistance data signal. See column 2, line 10-13 and line 29-36. Also, column 4, line 19-24.

Regarding **claims 9 and 10**, Zhao discloses the likely location estimated based on the mass center of the coverage area of the station. See column 2, line 53-55, and column 5, line 5-8.

Regarding **claim 11**, Zhao discloses TA and RTT in estimation of delay. See column 2, line 49-55.

Regarding **claims 12-13**, Zhao fails to disclose that the likely location is determined based on information of the average location or signal strength measurement.

However, Soliman successfully discloses the likely location determined based on information of the average location or signal strength measurement. See column 7, line 25-33.

Regarding **claims 14 and 15**, Zhao fails to disclose cell information regarding estimated delay in transmission of signals from the base station of the cell to mobile user equipment and the radio propagation conditions of signals.

However, Soliman successfully discloses the estimated delay in transmission of signals from the base station to mobile user equipment. See column 9, line 44-47.

It would have been obvious to modify Zhao to include cell information teaching of Soliman in order to efficiently minimize the degradation in the delivery of voice and data transmission services.

Regarding **claims 16 and 18**, Zhao discloses:

- A positioning system. Column 1, line 66-67, and column 2, line 1-2.
- A station of a communication.. See column 2, line 44-48.
- A processor to provide an estimate of the delay. See column 4, line 39-43.

Zhao fails to disclose a location estimation unit to provide an estimate of the likely location unit and an allocation determination unit.

However, Soliman successfully disclose an estimate of the likely location unit. See column 8, line 43-46, and column 9, line 2-8.

It would have been obvious to modify Zhao to include an estimate of the likely location and an allocation determination units teaching of Soliman in order to efficiently determine an initial position for the mobile unit and update position location.

Regarding **claims 17 and 19**, Zhao discloses:

- A first receiver to receive signals from a positioning system. Column 4, line 36-37.
- A second receiver to receive signals from a station. Column 4, line 28-33.

Zhao fails to disclose a location determination unit.

However, Soliman successfully discloses a location determination unit. See column 9, line 8-10.



It would have been obvious to modify Zhao to include a location determination unit teaching of Soliman in order to efficiently update the position of the mobile user accurately.

### ***Response to Arguments***

Applicant's arguments filed on January 04, 2007 have been fully considered but they are not persuasive.

Regarding applicant's argument for claims **1, 16, and 17**, applicant's arguments are moot in view of the new grounds rejection.

Regarding applicant's argument in the present specification, Zhao fails to disclose the timing advance can be used to provide an estimate for the time delay when the mobile has an active connection. However, the argument is not relevant because the feature is not claimed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Ly whose telephone number is 571-270-1326. The examiner can normally be reached on M-F: 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS H. TARCZA can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner



Hien Ly

March 30, 2007



THOMAS H. TARCZA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600